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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/647,129	11/27/2000	Dieter Dohring	TURKP0114US	4043

7590

08/12/2002

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EXAMINER

TSOY, ELENA

ART UNIT

PAPER NUMBER

1762

DATE MAILED: 08/12/2002

9

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application N .

09/647,129

Applicant(s)

DOHRING, DIETER

Examiner

Elena Tsoy

Art Unit

1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 July 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) 9-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

***Response to Amendment***

1. Amendment filed on July 1, 2002 has been entered. New claims 8-11 have been added. Claims 1-11 are pending in the application.

***Election/Restrictions***

2. Newly submitted claims 9-11 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Inventions of claims 1-8 and claims 9-11 are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by another and materially different process such as a process comprising coating a paper with a layer of amino resin in a dispersion containing an abrasive substance, and then impregnating the coated paper with amino resin.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 9-11 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

***Specification***

3. Objection to the disclosure because of the informalities has been withdrawn.

*Claim Objections*

4. Objection to the claim 6 because of the informalities has been withdrawn.

*Claim Rejections - 35 USC § 112*

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Rejection of claims 1-7 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention has been withdrawn.

*Claim Rejections - 35 USC § 103*

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claims 1, 3, 8** are rejected under 35 U.S.C. 103(a) as being unpatentable over Michl (US 3,135,643) in view of Fischer et al (US 6,023,670) and Hosler (US 4,505,974).

Michl discloses a method of impregnating paper used for the production of wear-resistant laminate material (See column 1, lines 20-24; column 10, lines 71-75) comprising: a) taking paper; b) damping and impregnating paper with amino resin (See column 3, lines 65-67; column 5, lines 58-59), and c) additionally coating onto said damped wet paper an additional layer of amino resin in a dispersion containing an abrasive substance (See column 3, lines 33-42, 67-70)

Art Unit: 1762

using a knife coater (See column 5, lines 67-70); and wherein dry resin content of the impregnated paper is 33-42 % (See column 5, lines 60-61) and the weight of dry coating is about 0.022-0.033 pound per square foot of the impregnated paper (See column 6, lines 1-3).

Considering the fact that weight of paper used for impregnating with a resin is usually of about  $40\text{g/m}^2$ , as evidenced by Lindgren et al (See US 5,034,272, column 4, lines 10-14), final area density amounts to about 190 % since the weight of dry coating is 0.022 pound per square foot =  $107\text{ g/m}^2$  and dry weight of the impregnated paper is  $40 \times 1.42 = 56\text{ g/m}^2$ .

Michl fails to teach that: step b) is carried out using metering rollers; and step c) is carried out by spraying instead of knife coater.

As to the use of metering rollers, Fischer teaches that the use of metering rollers for impregnating a paper web with a resin allows varying amount of the applied resin corresponding to the paper weight. See Fig.1; column 3, lines 43-67.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used metering rollers to impregnate a paper web of Michl with a resin in order to vary amount of the applied resin corresponding to the paper weight, as taught by Fischer.

As to spraying instead of knife coater, Hosler teaches that a dispersion of particles in a resin (See column 7, lines 37-38) can be applied to a damped wet paper impregnated with an amino resin (See column 3, lines 46-47, 50-53) by any suitable means such as spraying, knife coating (See column 4, lines 20-23).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied a dispersion of particles to a damped wet paper of Michl by spraying, since Hosler teaches that spraying is functionally equivalent to knife coating.

Art Unit: 1762

**As to claim 3**, Michl further teaches that amino resin is melamine resin. See column 9, lines 60-60; column 12, lines 1-3.

**As to claim 8**, Michl further teaches that the impregnated paper coated with the dispersion containing the abrasive substance is pressed to form a panel (See column 3, lines 67-75; column 4, 1-2).

9. **Claims 2, 4** are rejected under 35 U.S.C. 103(a) as being unpatentable over Michl (US 3,135,643) in view of Fischer et al (US 6,023,670) and Hosler (US 4,505,974), as applied above, and further in view of O'Dell et al (US 5,545,476) and Hoover et al (US 2,958,593).

**As to claim 2**, Michl further teaches that the coating dispersion comprises 100 parts of amino resin, 5-30 parts of the abrasive substance (See column 12, lines 1-3). Thus, combination of Michl, Fischer et al and Hosler fails to teach that the dispersion further comprises 0.5-2.5 parts of silane adhesion promoter, 5-25 parts of a flow-promoting agent, 0.1-0.4 parts of a wetting agent, 0.05-0.4 parts of a separating agent and an amino resin hardener (Claim 2); and the flow-promoting agent is polyglycol ether (Claim 4).

O'Dell et al teach that according to a conventional practice a protective coating composition comprising a dispersion of abrasive particles (See column 4, lines 59-65) is formulated with various conventional additives such as silane adhesion promoter for improving adhesion of the abrasive particles (See column 6, lines 43-49), a small amount of a wetting agent, humectant, mold release agent (a separating agent) and a catalyst (hardener) (See column 6, lines 34-41).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used conventional additives such as silane adhesion promoter, a wetting agent,

Art Unit: 1762

humectant, mold release agent (a separating agent) and a catalyst (hardener) in an abrasive resistant melamine composition of combination of Michl, Fischer et al and Hosler with the expectation of achieving conventional benefits, as taught by O'Dell et al.

As to addition of a flow-promoting agent such as polyglycol ether, Hoover et al teach that uniform distribution of abrasive particles on the surface of a non-woven web (See column 6, lines 47-48) can be achieved by spraying a dispersion of abrasive particles in amino-containing resin with adjusted viscosity through nozzles while agitating the dispersion in a tank. The viscosity of the dispersion can be adjusted by addition of a flow-promoting agent such as polyglycol ether. See column 5, lines 24-40, 46-55; column 6, lines 31-46.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have added a flow-promoting agent such as polyglycol ether to a decorative paper coating dispersion of combination of Michl, Fischer et al and Hosler for adjusting the viscosity of the dispersion for spraying applications with the expectation of achieving uniform distribution of abrasive particles on the surface of the decorative paper, as taught by Hoover et al.

It is held that where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have discovered by routine experimentation the optimum amount of additives (including claimed amounts) in a decorative paper coating dispersion of combination of Michl, Fischer et al and Hosler so that to achieve benefits of O'Dell et al or Hoover et al.

Art Unit: 1762

10. **Claims 5-7** are rejected under 35 U.S.C. 103(a) as being unpatentable over Michl (US 3,135,643) in view of Fischer et al (US 6,023,670) and Hosler (US 4,505,974), as applied above, and further in view of Lindgren et al (US 5,034,272).

Combination of Michl, Fischer et al and Hosler fails to teach that abrasive substance is silicon carbide having a mean particle size of 60-160 microns (Claim 5), or aluminum oxide having a mean particle size of 60-160 microns (Claim 6), or a mixture of silicon carbide and aluminum oxide (Claim 7).

Lindgren et al teach that silica abrasive particle is functionally equivalent to silicon carbide or aluminum oxide for making a wear-resistant surface paper layer of a decorative laminate. See column 3, lines 19-25. The average particle size should be in the range of 1-80 microns. If abrasive particles are too big the surface of the laminate is rough and unpleasant, while too small particles give too low abrasion resistance. See column 3, lines 30-35.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used silicon carbide or aluminum oxide or a mixture thereof instead of silica in combination of Michl, Fischer et al and Hosler since silicon carbide or aluminum oxide or a mixture thereof is functionally equivalent to silica, as shown by Lindgren et al, and the selection of any of these known abrasive particles would be within the level of ordinary skill in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used silicon carbide or aluminum oxide or a mixture thereof for making a wear-resistant surface paper layer of a decorative laminate of combination of Michl, Fischer et al and Hosler having a mean particle size of 1-80 microns since too big abrasive particles produce

Art Unit: 1762

are rough and unpleasant surface of the laminate, while too small particles give too low abrasion, as taught by Lindgren et al.

### *Response to Arguments*

11. Applicant's arguments with respect to claims 1-7 have been considered but are moot in view of the new ground(s) of rejection.

### *Conclusion*

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Art Unit: 1762

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy whose telephone number is (703) 605-1171. The examiner can normally be reached on 9:00-5:30.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (703) 308-2333. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

ET

Elena Tsoy  
Examiner  
Art Unit 1762

August 8, 2002

  
**MICHAEL BARR**  
**PRIMARY EXAMINER**